

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-17 (Canceled).

Claim 18 (Currently Amended): A multicast transmission method in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, said multicast transmission method comprising the steps of:

~~a mobile station sending~~ receiving a retransmission request signal from one of said plurality of mobile stations ~~to at~~ said base station when said one mobile station detects an error in a multicast signal; and

~~said base station determining, at said base station, a directivity of an a base station antenna by multiplying weights so as to separate an incoming wave of said one mobile station from waves of a remainder of the plurality of mobile stations;~~

~~so as to increase~~ increasing, based on an obtained weight, a base station antenna gain for said mobile station that sends said retransmission request signal[[,]]; and

retransmitting ~~a said~~ multicast signal to said mobile station ~~by using~~ said directivity.

Claims 19-20 (Canceled).

Claim 21 (Currently Amended): A multicast transmission method in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, wherein:

measuring, at a mobile station, ~~measures~~ receiving quality of a multicast signal received from said base station,

comparing, at said mobile station, said receiving quality to a predetermined value
when said mobile station detects an error in said multicast signal, ~~said mobile station;~~
sending from said mobile station ~~sends said~~ a retransmission request signal when said
error is detected and said receiving quality is better than a predetermined value, and;
storing at said mobile station stores said retransmission request signal when said error
is detected and said receiving quality of not better than a predetermined value,; ~~and said~~
~~mobile station~~ continuing to monitor said receiving quality, sends and sending said stored
retransmission request signal ~~which is stored when receiving quality becomes better than a~~
predetermined value, and
~~said base station retransmits~~ retransmitting from said base station a multicast signal
corresponding to said retransmission request signal when said base station receives said
retransmission request signal from said mobile station.

Claim 22 (Canceled).

Claim 23 (Previously Presented): The multicast transmission method as claimed in
claims 21, wherein said receiving quality is receiving power of a received multicast signal, a
ratio (CIR) between received multicast signal and interference power, an error rate of bit,
packet or slot of a received multicast signal, or, a correction bit number or likelihood
obtained when decoding error correction code.

Claim 24 (Previously Presented): The multicast transmission method as claimed in
claim 18, wherein:

when said base station sends a retransmitting multicast signal or when said base
station sends a new multicast signal after sending a retransmitting multicast signal, said base

station sends said retransmitting multicast signal or said new multicast signal by using a specific channel which is occupied for communication between a mobile station which receives said retransmitting multicast signal or said new multicast signal and said base station.

Claim 25 (Previously Presented): A multicast transmission method in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, wherein:

if said mobile station receives a retransmitted multicast signal without an error after sending a retransmission request signal to said base station when detecting an error in a received multicast signal, said mobile station does not perform error detection for a multicast signal which includes the same information as said retransmitted multicast signal and which is further retransmitted after receiving said retransmitted multicast signal; and

when said mobile station does not detect any error in a received multicast signal, said mobile station does not send any signal,

said base station monitors a receiving state of said multicast signal in said mobile stations, and changing a transmission methods to conform to said receiving state according to a result of monitoring, and sending a multicast signal.

Claim 26 (Canceled).

Claim 27 (Currently Amended): A multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, wherein comprising:

said base station and said plurality of base stations, wherein

said base station configured to receive from one of said plurality of mobile stations
sends a retransmission request signal to said base station ~~sent~~ when said one mobile station
detects an error in a multicast signal; ~~and wherein~~

said base station is configured to determine a ~~determines~~ directivity of ~~an~~ a base
station antenna by multiplying weights, so as to separate an incoming wave of said one mobile
station from waves of a remainder of the plurality of mobile stations, to increase, based on an
obtained weight, a base station antenna gain for said mobile station that sends said
retransmission request signal, and to retransmits a ~~said~~ multicast signal by using said
directivity.

Claim 28 (Currently Amended): A multicast transmission system in which the same
information is transmitted from a base station to a plurality of mobile stations,
~~wherein~~ comprising;

a mobile station configured to compare receiving quality of a multicast signal to a
predetermined value when said mobile station detects an error in said multicast signal,

said mobile station further configured to send a retransmission request signal when
said error is detected and said receiving quality is better than said predetermined value, and

said mobile station further configured to store said retransmission request signal when
said error is detected and said receiving quality of not better than a predetermined value, to
continue to monitor said receiving quality, and to send said stored retransmission request
signal when receiving quality becomes better than said predetermined value; and

a base station configured to retransmit a multicast signal corresponding to said
retransmission request signal when said base station receives said retransmission request
signal from said mobile station.

~~a mobile station measures receiving quality of a multicast signal received from said base station;~~

~~when said mobile station detects an error in said multicast signal, said mobile station sends a retransmission request signal when said receiving quality is better than a predetermined value; and~~

~~said mobile station stores said retransmission request signal when said receiving quality is not better than a predetermined value, and~~

~~said mobile station sends said retransmission request signal which is stored when receiving quality becomes better than a predetermined value, and~~

~~said base station retransmits a multicast signal corresponding to said retransmission request signal when said base station receives said retransmission request signal from said mobile station.~~

Claim 29 (Currently Amended): A mobile station in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, said mobile station comprising:

means for comparing, at said mobile station, receiving quality of a multicast signal to a predetermined value when said mobile station detects an error in said multicast signal;

means for sending from said mobile station a retransmission request signal when said error is detected and said receiving quality is better than a predetermined value;

means for storing at said mobile station stores said retransmission request signal when said error is detected and said receiving quality is not better than said predetermined value, for continuing to monitor said receiving quality, and for sending said stored retransmission request signal when receiving quality becomes better than a predetermined value, thereby

causing said base station to retransmit a multicast signal corresponding to said retransmission request.

~~means for measuring receiving quality;~~

~~means for sending a retransmission request signal if said receiving quality is better than a predetermined value when said mobile station detects an error in a multicast signal;~~

~~means for storing said retransmission request signal when said receiving quality is not better than a predetermined value, and sending said retransmission request signal which is stored when receiving quality becomes better than a predetermined value.~~

Claim 30 (Original) The mobile station as claimed in claim 29, wherein said receiving quality is receiving power of a received multicast signal, a ratio (CIR) between received multicast signal and interference power, an error rate of bit, packet or slot of a received multicast signal, or, a correction bit number or likelihood obtained when decoding error correction code.

Claim 31 (Original): A mobile station in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, said mobile station comprising;

means for controlling said mobile station such that if said mobile station receives a retransmitted multicast signal without an error after sending a retransmission request signal to said base station when detecting an error in a received multicast signal, said mobile station does not perform error detection for a multicast signal which includes the same information as said retransmitted multicast signal and which is further retransmitted after receiving said retransmitted multicast signal, and when said mobile station does not detect any error in a received multicast signal, said mobile station does not send any signal.

Claim 32 (Canceled).

Claim 33 (Currently Amended): A base station in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, said base station comprising:

a part configured to receive a retransmission request signal sent by one of said plurality of mobile stations ~~a mobile station that sent when said one mobile station~~ detects an error in a multicast signal;

a part configured to determine a directivity of a base station antenna by multiplying weights, to separate an incoming wave of said one mobile station from waves of a remainder of the plurality of mobile stations, to increase, based on an obtained weight, a base station antenna gain for said mobile station that sends said retransmission request signal, and to retransmit said multicast signal by using said directivity ~~directivity of an antenna so as to increase gain for said mobile station that sends said retransmission request signal, and retransmit a multicast signal by using said directivity.~~

Claims 34-36 (Canceled).

Claim 37 (Previously Presented) A multicast transmission method in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, said multicast transmission method comprising the steps of:

a mobile station in said mobile stations sending spreading code as a retransmission request signal to said base station when said mobile station detects an error in a received multicast signal; and

said base station obtaining a correlation value of said spreading code by using a correlator, judging that said spreading code is a retransmission request when said correlation value is greater than a threshold, and retransmitting a multicast signal corresponding to said retransmission request.

Claim 38 (Currently Amended): A multicast transmission method in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, [[•]]said multicast transmission method comprising the steps of:

a mobile station in said mobile stations sending spreading code as a retransmission request signal to said base station when said mobile station detects an error in a received multicast signal, wherein multicast signals are numbered, and said spreading code is uniquely associated with a number of the received multicast signal; and

said base station obtaining correlation values between said spreading code and every possible spreading code by using a correlator, judging that said spreading code is a retransmission request when there is a correlation value that is greater than a threshold, and retransmitting a multicast signal of a number corresponding to spreading code used for obtaining the correlation value that is greater than the threshold.

Claim 39 (Previously Presented): The multicast transmission method as claimed in claim 37, wherein said spreading code is orthogonal Gold code.

Claim 40 (Previously Presented): A multicast transmission method in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, said multicast transmission method comprising the steps of:

a mobile station in said mobile stations sending spreading code as a retransmission request signal to said base station when said mobile station detects an error in a received multicast signal; and

said base station obtaining a distance between said spreading code and other spreading code by using an error correction decoder, judging that said spreading code is a retransmission request when receiving quality obtained by the distance is greater than a threshold, and retransmitting a multicast signal corresponding to said retransmission request.

Claim 41 (Previously Presented): A multicast transmission method in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, said multicast transmission method comprising the steps of:

a mobile station in said mobile stations sending spreading code as a retransmission request signal to said base station when said mobile station detects an error in a received multicast signal, wherein multicast signals are numbered, and said spreading code is uniquely associated with a number of the received multicast signal; and

said base station obtaining distances between said spreading code and every possible spreading code by using an error correction decoder, judging that said spreading code is a retransmission request when there is receiving quality that is greater than a threshold among receiving qualities obtained from the distances, and retransmitting a multicast signal of a number corresponding to spreading code used for obtaining the receiving quality that is greater than the threshold.

Claim 42 (Previously Presented): The multicast transmission method as claimed in claim 40, wherein said spreading code is error correction code.

Claim 43 (Previously Presented): The multicast transmission method as claimed in claim 37, wherein said base station performs path diversity for receiving a signal from said mobile station.

Claim 44 (Previously Presented): A multicast transmission system comprising a base station and a plurality of mobile stations in which the same information is transmitted from said base station to a plurality of mobile stations, wherein:

a mobile station in said mobile stations sends spreading code as a retransmission request signal to said base station when said mobile station detects an error in a received multicast signal; and

said base station obtains a correlation value of said spreading code by using a correlator, judges that said spreading code is a retransmission request when said correlation value is greater than a threshold, and retransmits a multicast signal corresponding to said retransmission request.

Claim 45 (Previously Presented): A multicast transmission system comprising a base station and a plurality of mobile stations in which the same information is transmitted from said base station to a plurality of mobile stations, wherein:

a mobile station in said mobile stations sends spreading code as a retransmission request signal to said base station when said mobile station detects an error in a received multicast signal, wherein multicast signals are numbered, and said spreading code is uniquely associated with a number of the received multicast signal; and

said base station obtains correlation values between said spreading code and every possible spreading code by using a correlator, judges that said spreading code is a retransmission request when there is a correlation value that is greater than a threshold, and

retransmits a multicast signal of a number corresponding to spreading code used for obtaining the correlation value that is greater than the threshold.

Claim 46 (Previously Presented) The multicast transmission system as claimed in claim 44, wherein
said spreading code is orthogonal Gold code.

Claim 47 (Previously Presented): A multicast transmission system comprising a base station and a plurality of mobile stations in which the same information is transmitted from said base station to a plurality of mobile stations, wherein:

a mobile station in said mobile stations sends spreading code as a retransmission request signal to said base station when said mobile station detects an error in a received multicast signal; and

said base station obtains a distance between said spreading code and other spreading code by using an error correction decoder, judges that said spreading code is a retransmission request when receiving quality obtained by the distance is greater than a threshold, and retransmits a multicast signal corresponding to said retransmission request.

Claim 48 (Previously Presented): A multicast transmission system comprising a base station and a plurality of mobile stations in which the same information is transmitted from said base station to a plurality of mobile stations, wherein:

a mobile station in said mobile stations sends spreading code as a retransmission request signal to said base station when said mobile station detects an error in a received multicast signal, wherein multicast signals are numbered, and said spreading code is uniquely associated with a number of the received multicast signal; and

said base station obtains distances between said spreading code and every possible spreading code by using an error correction decoder, judges that said spreading code is a retransmission request when there is receiving quality that is greater than a threshold among receiving qualities obtained from the distances, and retransmits a multicast signal of a number corresponding to spreading code used for obtaining the receiving quality that is greater than the threshold.

Claim 49 (Previously Presented): The multicast transmission system as claimed in claim 47, wherein said spreading code is error correction code.

Claim 50 (Previously Presented): A base station in a multicast transmission system in which the same information is transmitted from said base station to a plurality of mobile stations, said base station comprising:

a part configured to receive spreading code as a retransmission request signal of a multicast signal from a mobile station in said mobile stations;

a correlator configured to obtain a correlation value of said spreading code; and

a part configured to judge that said spreading code is a retransmission request when said correlation value is greater than a threshold, and retransmits a multicast signal corresponding to said retransmission request.

Claim 51 (Previously Presented): A base station in a multicast transmission system in which the same information is transmitted from said base station to a plurality of mobile stations, said base station comprising:

a part configured to receive spreading code as a retransmission request signal of a multicast signal from a mobile station in said mobile stations, wherein multicast signals are

numbered, and said spreading code is uniquely associated with a number of the multicast signal;

a correlator configured to obtain correlation values between said spreading code and every possible spreading code; and

a part configured to judge that said spreading code is a retransmission request when there is a correlation value that is greater than a threshold, and retransmit a multicast signal of a number corresponding to spreading code used for obtaining the correlation value that is greater than the threshold.

Claim 52 (Previously Presented): The base station as claimed in claim 50, wherein said spreading code is orthogonal Gold code.

Claim 53 (Previously Presented): A base station in a multicast transmission system in which the same information is transmitted from said base station to a plurality of mobile stations, said base station comprising:

a part configured to receive spreading code as a retransmission request signal of a multicast signal from a mobile station in said mobile stations;

an error correction decoder configured to obtain a distance between said spreading code and other spreading code; and

a part configured to judge that said spreading code is a retransmission request when receiving quality obtained by the distance is greater than a threshold, and retransmit a multicast signal corresponding to said retransmission request.

Claim 54 (Previously Presented): A base station in a multicast transmission system in which the same information is transmitted from said base station to a plurality of mobile stations, said base station comprising:

a part configured to receive spreading code as a retransmission request signal of a multicast signal from a mobile station in said mobile stations, wherein multicast signals are numbered, and said spreading code is uniquely associated with a number of the multicast signal;

an error correction decoder configured to obtain distances between said spreading code and every possible spreading code; and

a part configured to judge that said spreading code is a retransmission request when there is receiving quality that is greater than a threshold among receiving qualities obtained from the distances, and retransmit a multicast signal of a number corresponding to spreading code used for obtaining the receiving quality that is greater than the threshold.

Claim 55 (Previously Presented): The base station as claimed in claim 53, wherein said spreading code is error correction code.

Claim 56 (Previously Presented): The base station as claimed in claim 53, further comprising a part configured to perform path diversity for receiving a signal from said mobile station.

Claim 57 (Previously Presented): A multicast transmission method in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, wherein:

if said mobile station receives a retransmitted multicast signal without an error after sending a retransmission request signal to said base station when detecting an error in a received multicast signal, said mobile station does not perform error detection for a multicast signal which includes the same information as said retransmitted multicast signal and which is further retransmitted after receiving said retransmitted multicast signal; and

when said mobile station does not detect any error in a received multicast signal, said mobile station does not send any signal, and

said base station determines directivity of an antenna on the basis of an incoming wave from said mobile station, and retransmits a multicast signal by using said directivity.

Claim 58 (Previously Presented): A multicast transmission method in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, wherein:

if said mobile station receives a retransmitted multicast signal without an error after sending a retransmission request signal to said base station when detecting an error in a received multicast signal, said mobile station does not perform error detection for a multicast signal which includes the same information as said retransmitted multicast signal and which is further retransmitted after receiving said retransmitted multicast signal; and

when said mobile station does not detect any error in a received multicast signal, said mobile station does not send any signal, and

said base station retransmits a multicast signal corresponding to said retransmission request signal after changing a transmission method when said base station receives said retransmission request signal from said mobile station.